

CLAIM AMENDMENTS

IN THE CLAIMS

This listing of the claims will replace all prior versions, and listing, of claims in the application or previous response to office action:

1. (Currently Amended) A Device device for controlling a piezoelectric actuator, ~~in-particular~~for use in a fuel injection valve of an internal combustion engine, said device comprising an energy source ~~which supplies to supply~~ the actuator with energy, ~~whereby the wherein an~~ extension of the ~~piezoelectric~~-actuator corresponds with a predetermined response to changes in temperature, and a ~~compensation~~-capacitor ~~which~~ is connected in parallel with the ~~piezoelectric~~-actuator ~~for which wherein~~ the capacitance is ~~dimensioned in~~ such ~~a way that~~ ~~[[,]]~~ for a constant amount of energy delivered by the energy source, ~~the~~ extension of the actuator is almost constant across ~~[[the]]~~ a temperature range.

2. (Currently Amended) A Device device according to Claim 1, wherein the energy source, a controller controlling the energy source and a compensation capacitor are accommodated in a housing and are connected via a cable with the piezoelectric actuator.

3. (Currently Amended) A Device device in accordance with Claim 1, wherein the energy source, a control circuit controlling the energy source, the compensation capacitor, and the piezoelectric actuator are accommodated in a housing, whereby the control circuit can be controlled by an external controller.

4. (Currently Amended) A Device device in accordance with Claim 1, wherein the compensation capacitor has a capacitances of around 10,5µF.

5. (Currently Amended) A Device device according to Claim 3, wherein the housing is a fuel injection valve housing.

6. (Currently Amended) A Device device according to Claim 3, further comprising a temperature sensor coupled with the external controller for determining the temperature of the housing.

7. (Currently Amended) A Device device according to Claim 2, further comprising a measurement line coupled with the controller and the actuator used to determine the voltage at the actuator.

8. (Currently Amended) A Device device according to Claim 2, further comprising a temperature sensor coupled with the actuator and electrically coupled with a measurement line used to transmit the temperature value of the actuator to the controller.

9. (Currently Amended) A Method method for controlling a piezoelectric actuator, in-particular for use in a fuel injection valve of an internal combustion engine, said method comprising the steps of:

- supplying the actuator with energy, whereby the wherein an extension of the piezoelectric-actuator corresponds with a predetermined response to changes in temperature, and

- compensating the extension of the piezoelectric-actuator by means of via a capacitor coupled in parallel with the actuator, wherein the capacitance is dimensioned in such a way that [[,]] for a constant amount of energy delivered by [[the]]an energy source, the extension of the actuator is almost constant across [[the]]a temperature range.

10. (Currently Amended) A Method method according to Claim 9, further comprising the step of sensing the voltage of the actuator.

11. (Currently Amended) A Method method according to Claim 9, further comprising the step of sensing the temperature of the actuator.

12. (Currently Amended) A Fuel fuel injection valve comprising:

- a piezoelectric actuator;

- an energy source ~~which supplies~~ to supply the actuator with energy, whereby ~~[[the]]~~ an extension of the ~~piezoelectric~~ actuator corresponds with a predetermined response to changes in temperature, and

- a ~~compensation~~ capacitor ~~which is~~ connected in parallel with the ~~piezoelectric~~ actuator ~~for which~~ wherein the capacitance is ~~dimensioned in~~ such ~~a way~~ that ~~[[,]]~~ for a constant amount of energy delivered by the energy source the extension of the actuator is almost constant across ~~[[the]]~~ a temperature range.

13. (Currently Amended) ~~[[The]]~~ A valve according to Claim 12, wherein the energy source, a controller controlling the energy source and a compensation capacitor are accommodated in a housing and are connected via a cable with the piezoelectric actuator.

14. (Currently Amended) ~~[[The]]~~ A valve in accordance with Claim 12, wherein the energy source, a control circuit controlling the energy source, the compensation capacitor, and the piezoelectric actuator are accommodated in a housing, whereby the control circuit can be controlled by an external controller.

15. (Currently Amended) ~~[[The]]~~ A valve in accordance with Claim 12, wherein the compensation capacitor has a capacitances of around 10,5µF.

16. (Currently Amended) ~~[[The]]~~ A valve according to Claim 14, wherein the housing is the housing of the fuel injection valve.

17. (Currently Amended) ~~[[The]]~~ A valve according to Claim 14, further comprising a temperature sensor coupled with the external controller for determining the temperature of the housing.

18. (Currently Amended) ~~[[The]]~~ A valve according to Claim 13, further comprising a measurement line coupled with the controller and the actuator used to determine the voltage at the actuator.

19. (Currently Amended) ~~[[The]]~~A valve according to Claim 13, further comprising a temperature sensor coupled with the actuator and electrically coupled with a measurement line used to transmit the temperature value of the actuator to the controller.

20. (New) A device for controlling a piezoelectric actuator for use in a fuel injection valve of an internal combustion engine said device comprising:
an energy source to supply energy to the actuator,
a controller for controlling the energy source,
a measurement line coupled with the controller and actuator to determine a voltage at the actuator, and

a compensation capacitor connected with the actuator having a capacitance such that for a constant amount of energy delivered by the energy source, an extension of the actuator is almost constant across a temperature range, wherein the energy source, the controller, and the capacitor are accommodated in a housing and connected via a cable with the actuator.

21. (New) A method for controlling a piezoelectric actuator for use in a fuel injection valve of an internal combustion engine, said method comprising the steps:
supplying the actuator with energy, wherein an extension of the actuator corresponds with a predetermined response to changes in temperature,
compensating the extension of the actuator via a capacitor coupled with the actuator, said capacitor having a capacitance wherein for a constant amount of energy delivered by an energy source, the extension of the actuator is almost constant across a temperature range,
and
sensing the voltage of the actuator.

22. (New) A fuel injection valve comprising:
a piezoelectric actuator,
an energy source to supply the actuator with energy, wherein an extension of the actuator corresponds with a predetermined response to changes in temperature,
a controller for controlling the energy source,
a compensation capacitor connected with the actuator having a capacitance such that for a constant amount of energy delivered by the energy source, extension of the actuator is almost constant across a temperature range, and
a measurement line coupled with the actuator used to determine the voltage at the actuator, wherein the energy source, the controller, and the capacitor are accommodated in a housing and connected via a cable with the actuator.